DETAILED ACTION

Response to Amendment

1. The amendments and accompanying remarks, filed on 01/30/2008, have been entered and fully considered. Claims 1, 14, 23, 33 and 37 have been amended. Claims 1-48 are now pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation (d) of claim 1 recites: "*no mobile station making use of the packet data service*" on the first line of limitation (d) and on lines 2-3 "*the mobile station making use of the packet data service*". These two limitations conflict with each other and make the claim confusing and indefinite. The limitation of "*no mobile station making use of the packet data service*" is used for comparison with the prior art.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-31, 33-48 are under 35 U.S.C. 103(a) as being unpatentable over Denkert (USP 6374117), in view of Chen (USP 5982760).

Regarding **Claim 1**. Denkert teaches *a power allocation method* (power control col 2 line 40) *for providing a packet data service* (wireless packet data systems col 3 line 15) *with a line service* (voice application col 2 lines 7-8) *in a mobile communication system* (cellular communication system col 1 lines14-15) *having a base transceiver station* (col 4 line 19) *for performing wireless communication* (wireless network col 4 line 49) *with a mobile station* (620 col 7 line 8) *and a base station* (610 col 7 line 8) *controller for controlling the base transceiver station* (col 4 line 19), *(a) checking whether or not packet data traffic is generated* (base station 610 handles a plurality of packet data channels col 7 lines 19-20); *(b) if it is checked and the packet data traffic is generated in the step (a)* (prioritizing data packet for transmission col 3 lines 30-31), *checking whether or not there is the mobile station making use of a line service where a current call is in progress* (utilizing real time voice application col 2 lines 7-8); *(c) if it is checked and there is the mobile station making use of the line service where the current call is in progress, checking whether or not there is the mobile station making use of the packet data service where the call is currently in progress; and (d) if it is checked and there is no mobile station making use of the packet data service where the current call is in progress, gradually increasing power transmitted to the mobile station* (power control is

used to adjust operations of the communication system col 2 lines 40-41, Transmit power is ramped up to control link quality col 2 lines 45) *making use of the packet data service* (wireless packet data systems col 3 lines 7-8), *the increased power is in a remaining power* (specification definition p2 lines 5-9: power control for the line service and the packet data service, the total power which the base transceiver station is supplying is shared, the base transceiver station allocates all the remaining power other than the power needed to provide the line service to provide the packet data service) *other than the power allocated to the line service* (specification definition p1 lines 20-21: line service refers to a real-time service, such as a voice service, a video service) (power control is used to adjust operations of the communication system col 2 lines 40-41, Transmit power is ramped up to control link quality col 2 lines 45).

Denkert may not explicitly teach *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power.*
In the same field of endeavor, Chen teaches *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power* (Packets of data are transmitted as discrete frames, when a frame is erased, packet data transmission ended, transmission power is adjusted col 2 lines 23-28; Base station increases transmission power col 2, lines 42-43), (channel bandwidth used to transmit voice traffic col 2 lines 36-37).

It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that calls are not undesirably terminated.

Regarding **Claim 2**. Denkert teaches: wherein the packet data traffic in the step (a) is generated when the mobile station performs packet data communication including at least one of a wireless application protocol (WAP), a file transfer protocol (FTP) and a hypertext transfer protocol (HTTP) (conversational, streaming, interactive, background classes. Class traffic. Internet applications, WWW, E-mail, Telnet, FTP col 2 lines 13-23).

Regarding **Claim 3**. Denkert teaches: further comprising the step of, if it is checked that there is no mobile station making use of the line service where the current call is in progress in the step (b), allocating current whole power (Chen: power peak col 8 lines 22-23) to the mobile station making use of the packet data service (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

Regarding **Claim 4**. Denkert teaches: further comprising the step of, if it is checked and there is the mobile station making use of the packet data service where the current call is in progress in the step (c), allocating current whole power (Chen: power peak col 8 lines 22-23) to the mobile station making use of the packet data service (Transmit

power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

Regarding **Claim 5**. Chen teaches: wherein the step of allocating the power to the mobile station making use of the packet data service allocates current remaining power to the mobile station making use of the packet data service at once (power peak col 8 lines 22-23).

Regarding **Claim 6**. Chen teaches: wherein the step of allocating the power to the mobile station making use of the packet data service allocates current remaining power to the mobile station making use of the packet data service at once (power peak col 8 lines 22-23).

Regarding **Claim 7**. Denkert teaches: wherein the step (d) performs power allocation in a way that the power transmitted to the mobile station making use of the packet data service is gradually increased at a preset period of time for a preset predetermined time (ramping transmit power up col 2 line 44, Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

Regarding **Claim 8**. Denkert teaches: wherein the preset period of time is 1.25 msec (The delay threshold used in decision block 320 may be fixed, dependent on the QoS

parameter, sensitive to packet delay. E.g. if average packet delay is guaranteed in the milliseconds range then this will be the selected system delay threshold col 5 lines 29-40) (Chen: Col 12 lines 29-31 power transmission window of 1.25 milliseconds).

Regarding **Claim 9**. Denkert teaches: wherein the power allocation gradually increases the power transmitted to the mobile station making use of the packet data service by a same preset power magnitude at each preset period of time (increasing power level in increments col 5 lines 26-27).

Regarding **Claim 10**. Denkert teaches: wherein the power allocation controls the power transmitted to the mobile station making use of the packet data service to be gradually increased at each preset period of time in a way that an increasing width of each step is gradually decreased as the period of time proceeds (power control algorithm is a function of a delay variable Col 5 lines 18-20 depending on priority level power is increased by increments col 5 lines 25-28 delay time in transmitting packets leads to increasing transmitted power col 5 lines 40-48).

Regarding **Claim 11**. Denkert teaches: wherein the gradually increasing power is increased up to a peak power which can be currently transmitted (maximum transmit power available at the base station transceiver col 4 lines 61-62).

Regarding **Claim 12**. Denkert teaches: wherein the gradually increasing power is increased up to a peak power which can be currently transmitted (maximum transmit power available at the base station transceiver col 4 lines 61-62).

Regarding **Claim 13**. Denkert teaches: wherein the preset predetermined time is a time which it takes a signal-to-interference ratio (carrier-to-interference ratio col 2 lines 38-39) of the mobile station to be restored to an original value (QoS level col 2 line 32) thereof when the power allocated to the mobile station making use of the line service is changed (power control used with C/I targets to ramp transmit power up or down for each link to control link quality col 2 lines 43-45).

Regarding **Claim 14**. Denkert teaches *a power allocation method* (power control col 2 line 40) *for providing a packet data service* (wireless packet data systems col 3 line 15) *with a line service* (voice application col 2 lines 7-8) *in a mobile communication system* (cellular communication system col 1 lines14-15) *having a base transceiver station* (col 4 line 19) *for performing wireless communication* (wireless network col 4 line 49) *with at least one mobile station* (620 col 7 line 8) *and a base station* (610 col 7 line 8) *controller for controlling the base transceiver station* (col 4 line 19), *(a) checking whether or not packet data traffic is generated* (base station 610 handles a plurality of packet data channels col 7 lines 19-20); *(b) if it is checked and the packet data traffic is generated in the step (a)* (prioritizing data packet for transmission col 3 lines 30-31), *checking whether or not there is the mobile station making use of the line service where a current*

call is in progress (utilizing real time voice application col 2 lines 7-8); *(c) if it is checked and there is the mobile station making use of the line service where the current call is in progress, checking whether or not there is the mobile station making use of the packet data service where the call is currently in progress* (transmitting electronic mail col 2 line 10); *and (d) if it is checked and there is no mobile station making use of the packet data service where the current call is in progress, gradually increasing power transmitted to the mobile station* (power control is used to adjust operations of the communication system col 2 lines 40-41, Transmit power is ramped up to control link quality col 2 lines 45) *making use of the packet data service by a same preset power magnitude* (power increment col 5 line 27) *at each preset period of time* (real time services such as VoIP col 2 line 5) *for a preset predetermined time* (time slot in the downlink col 1 line 53), *the increased power is in a remaining power* other *than the power allocated to the line service* (power control is used to adjust operations of the communication system col 2 lines 40-41, transmit power is ramped up to control link quality col 2 lines 45).

Denkert may not explicitly teach *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power.*

In the same field of endeavor, Chen teaches *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power* (Packets of data are transmitted as discrete frames, when a frame is erased, packet data transmission ended, transmission power is adjusted col 2 lines 23-28; Base station increases

transmission power col 2, lines 42-43), (channel bandwidth used to transmit voice traffic col 2 lines 36-37).
It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that calls are not undesirably terminated.

Regarding **Claim 15**. Denkert teaches: wherein the packet data traffic in the step (a) is generated when the mobile station performs packet data communication including at least one of a wireless application protocol (WAP), a file transfer protocol (FTP) and a hypertext transfer protocol (HTTP) (conversational, streaming, interactive, background classes. Class traffic. Internet applications, WWW, E-mail, Telnet, FTP col 2 lines 13-23).

Regarding **Claim 16**. Denkert teaches: further comprising the step of, if it is checked and there is no mobile station making use of the line service where the current call is in progress in the step (b), allocating current whole power (Chen: power peak col 8 lines 22-23) to the mobile station making use of the packet data service (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

Regarding **Claim 17**. Denkert teaches: further comprising the step of, if it is checked and there is the mobile station making use of the packet data service where the current

call is in progress in the step (c), allocating current whole power (Chen: power peak col 8 lines 22-23) to the mobile station making use of the packet data service (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

Regarding **Claim 18**. Chen teaches: wherein the step of allocating the power to the mobile station making use of the packet data service allocates current remaining power to the mobile station making use of the packet data service at once (power peak col 8 lines 22-23).

Regarding **Claim 19**. Chen teaches: wherein the step of allocating the power to the mobile station making use of the packet data service allocates current remaining power to the mobile station making use of the packet data service at once (power peak col 8 lines 22-23).

Regarding **Claim 20**. Denkert teaches: wherein the preset period of time is 1.25 msec (The delay threshold used in decision block 320 may be fixed, dependent on the QoS parameter, sensitive to packet delay. E.g. if average packet delay is guaranteed in the milliseconds range then this will be the selected system delay threshold col 5 lines 29-40) (Chen: Col 12 lines 29-31 power transmission window of 1.25 milliseconds).

Regarding **Claim 21**. Denkert teaches: wherein the gradually increasing power is increased up to a peak power which can be currently transmitted (maximum transmit power available at the base station transceiver col 4 lines 61-62).

Regarding **Claim 22**. Denkert teaches: wherein the preset predetermined time is a time which it takes a signal-to-interference ratio (carrier-to-interference ratio col 2 lines 38-39) of the mobile station to be restored to an original value (QoS level col 2 line 32) thereof when the power allocated to the mobile station making use of the line service is changed (power control used with C/I targets to ramp transmit power up or down for each link to control link quality col 2 lines 43-45).

Regarding **Claim 23**.Denkert teaches *a power allocation method* (power control col 2 line 40) *for providing a packet data service* (wireless packet data systems col 3 line 15) *with a line service* (voice application col 2 lines 7-8) *in a mobile communication system* (cellular communication system col 1 lines14-15) *having a base transceiver station* (col 4 line 19) *for performing wireless communication* (wireless network col 4 line 49) *with a mobile station* (620 col 7 line 8) *and a base station* (610 col 7 line 8) *controller for controlling the base transceiver station* (col 4 line 19), *(a) checking whether or not packet data traffic is generated* (base station 610 handles a plurality of packet data channels col 7 lines 19-20); *(b) if it is checked and the packet data traffic is generated in the step (a)* (prioritizing data packet for transmission col 3 lines 30-31), *checking whether or not there is the mobile station making use of the line service where a current*

call is in progress (utilizing real time voice application col 2 lines 7-8); *(c) if it is checked and there is the mobile station making use of the line service where the current call is in progress, checking whether or not there is the mobile station making use of the packet data service where the call is currently in progress* (transmitting electronic mail col 2 line 10); *and (d) if it is checked and there is no mobile station making use of the packet data service where the current call is in progress, controlling power transmitted to the mobile station making use of the packet data service to be gradually increased* (power control is used to adjust operations of the communication system col 2 lines 40-41, Transmit power is ramped up to control link quality col 2 lines 45 power control in wireless packet data systems col 3 lines 7-8) *at each preset period of time for a preset predetermined time in a way that an increasing width of each step is gradually decreased as the period of time proceeds* (power control algorithm is a function of a delay variable Col 5 lines 18-20 depending on priority level power is increased by increments col 5 lines 25-28 delay time in transmitting packets leads to increasing transmitted power col 5 lines 40-48),
the gradually increased power is in a remaining power other *than the power allocated to the line service* (power control is used to adjust operations of the communication system col 2 lines 40-41, transmit power is ramped up to control link quality col 2 lines 45).

Denkert may not explicitly teach *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power.*

In the same field of endeavor, Chen teaches *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power* (packets of data are transmitted as discrete frames, when a frame is erased, packet data transmission ended, transmission power is adjusted col 2 lines 23-28; base station increases transmission power col 2, lines 42-43), (channel bandwidth used to transmit voice traffic col 2 lines 36-37).

It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that calls are not undesirably terminated.

Regarding **Claim 24**. Denkert teaches: wherein the packet data traffic in the step (a) is generated when the mobile station performs packet data communication including at least one of a wireless application protocol (WAP), a file transfer protocol (FTP) and a hypertext transfer protocol (HTTP) (conversational, streaming, interactive, background classes. Class traffic. Internet applications, WWW, E-mail, Telnet, FTP col 2 lines 13-23).

Regarding **Claim 25**. Denkert teaches: further comprising the step of, if it is checked and there is no mobile station making use of the line service where the current call is in progress in the step (b), allocating current whole power (Chen: power peak col 8 lines 22-23) to the mobile station making use of the packet data service (Transmit power is

controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

Regarding **Claim 26**. Denkert teaches: further comprising the step of, if it is checked and there is the mobile station making use of the packet data service where the current call is in progress in the step (c), allocating current whole power (Chen: power peak col 8 lines 22-23) to the mobile station making use of the packet data service (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

Regarding **Claim 27**. Chen teaches: wherein the step of allocating the power to the mobile station making use of the packet data service allocates current remaining power to the mobile station making use of the packet data service at once (power peak col 8 lines 22-23).

Regarding **Claim 28**. Chen teaches: wherein the step of allocating the power to the mobile station making use of the packet data service allocates current remaining power to the mobile station making use of the packet data service at once (power peak col 8 lines 22-23).

Regarding **Claim 29**. Denkert teaches: wherein the preset period of time is 1.25 msec (The delay threshold used in decision block 320 may be fixed, dependent on the QoS

parameter, sensitive to packet delay. E.g. if average packet delay is guaranteed in the milliseconds range then this will be the selected system delay threshold col 5 lines 29-40) (Chen: Col 12 lines 29-31 power transmission window of 1.25 milliseconds).

Regarding **Claim 30**. Denkert teaches: wherein the gradually increasing power is increased up to a peak power which can be currently transmitted (maximum transmit power available at the base station transceiver col 4 lines 61-62).

Regarding **Claim 31**Denkert teaches: wherein the preset predetermined time is a time which it takes a signal-to-interference ratio (carrier-to-interference ratio col 2 lines 38-39) of the mobile station to be restored to an original value (QoS level col 2 line 32) thereof when the power allocated to the mobile station making use of the line service is changed (power control used with C/I targets to ramp transmit power up or down for each link to control link quality col 2 lines 43-45).

Regarding **Claim 33** Denkert teaches *a power allocation apparatus for providing a packet data service with a line service* (voice application col 2 lines 7-8) *in a mobile communication system over a mobile communication network having a base transceiver station for performing wireless communication with at least one mobile station, and a base station controller connected to a mobile switching center* (mobile calls routed by packet-switched col 1 lines 16-17) and *for controlling the base transceiver station, the power allocation apparatus* (power control circuit col 2 lines 41-42), *the base transceiver*

station (base transceiver stations BTS col 4 line 18) *including an antenna* (Packets are then transmitted by the BTS 180 over the air interface col 4 line 25) *for performing wireless communication with the mobile station* (mobile station 620 col 7 line 8); *a transmission section* (base station 610 col 7 line 8 also see Fig. 6) *for performing wireless transmission by means of the antenna; a reception section* (packet data channel transceiver 650 col 7 line 20 also see Fig. 6) *for performing wireless reception by means of the antenna; a data reception section* (control and processing unit 630 also see Fig. 6) *for receiving data to be transmitted from the mobile communication network to the mobile station; a data processing section* (control and processing unit 630 also see Fig. 6) *for processing the data received through the data reception section in accordance with a predetermined algorithm* (evaluates the received control channel information col 7 lines 41-42); *a modulation section* (block 520 modulation col 6 lines 64-65 also see Fig. 5) *for modulating the data processed by the data processing section; and a power section* (base transceiver stations, the transceivers are transmitter/receivers which have a power supply section col 4 line 19) *for supplying/driving power to allow the data modulated by the modulation section to be transmitted* (transmitted by the BTS 180 col 4 line 25 also see Fig. 2) *through the antenna; and a control section* (packet data channel transceiver 650 would provide info on if there is packet data traffic col 7 line 20) *for checking whether or not there is the mobile station making use of the packet data service, and according to the checked result, controlling the power section to gradually regulate* (adapt the transmit power of

each transceiver col 7 lines 34-35) *the power transmitted to the mobile station making use of the packet data service*,
the gradually regulated power is in a remaining power other *than the power allocated to the line service* (power control is used to adjust operations of the communication system col 2 lines 40-41, transmit power is ramped up to control link quality col 2 lines 45).

Denkert may not explicitly teach *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power.*
In the same field of endeavor, Chen teaches *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power* (packets of data are transmitted as discrete frames, when a frame is erased, packet data transmission ended, transmission power is adjusted col 2 lines 23-28; base station increases transmission power col 2, lines 42-43), (channel bandwidth used to transmit voice traffic col 2 lines 36-37).
It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that calls are not undesirably terminated.

Regarding **Claim 34**. Denkert teaches: wherein the control section is provided to the base transceiver station (base station 610 col 7 line 19).

Regarding **Claim 35**. Denkert teaches: wherein the control section is provided to the base station controller (control unit 630 col 7 line8).

Regarding **Claim 36**. Denkert teaches: wherein the control section comprises: a packet scheduler (packet data scheduler col 1 lines 46-47) for receiving data transmitted from the mobile communication network to perform packet scheduling; a channel estimator (carrier-to-interference (C/I) ratio col 2 lines 38-39 noise and interference col 6 lines 16-17) for estimating channels according to signals received through the reception section; a channel allocator (a plurality of base transceiver stations each associated with a channel col 4 line 25) for allocating communication channels; a power allocator (power control 300 col 4 line 51) for controlling the power section to allocate transmission power; and a coding and modulating selector (appropriate modulation and coding scheme col 2 lines 34-35) for performing coding and modulating of the data.

Regarding **Claim 37**. Denkert teaches: wherein the control section controls the power section to gradually increase the power transmitted (power control is used to adjust operations of the communication system col 2 lines 40-41, Transmit power is ramped up to control link quality col 2 lines 45) to the mobile station making use of the packet data service, in the case where packet data traffic is generated for the first time during performing initial power control (First, the QoS attributes are evaluated at step 500 col 6 lines 57-58), where there is the mobile station making use of a line service where a current call is in progress (cellular radiotelephone and voice over IP col 1 lines 10, 24),

and where there is no mobile station making use of the packet data service where the current call is in progress (mobile calls routed in a circuit-switched fashion col 1 lines 17-18).

Regarding **Claim 38**. Denkert teaches: wherein the control section controls the power section to allocate current whole power (Chen: power peak col 8 lines 22-23) to the mobile station making use of the packet data service (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54), in the case where there is no mobile station making use of the line service where the current call is in progress when the packet data traffic is generated for the first time.

Regarding **Claim 39**. Denkert teaches: wherein the control section controls the power section to allocate current whole power (Chen: power peak col 8 lines 22-23) to the mobile station making use of the packet data service, in the case where there is the mobile station making use of the packet data service (packet data communications in radio communication systems col 1 lines 7-8) where the current call is in progress when the packet data traffic is generated for the first time (First, the QoS attributes are evaluated at step 500 col 6 lines 57-58).

Regarding **Claim 40**. Denkert teaches: wherein the control section controls the power section to allocate current remaining power to the mobile station making use of the

packet data service at once (Chen: power peak col 8 lines 22-23), in order to allocate the power to the mobile station making use of the packet data service (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

Regarding **Claim 41**. Denkert teaches: wherein the control section controls the power section to allocate current remaining power to the mobile station making use of the packet data service at once (Chen: power peak col 8 lines 22-23), in order to allocate the power to the mobile station making use of the packet data service (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

Regarding **Claim 42**. Denkert teaches: wherein the control section controls the power section to gradually increase the power transmitted to the mobile station (ramping transmit power up col 2 line 44, Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54) making use of the packet data service at a preset period of time for a preset predetermined time.

Regarding **Claim 43**. Denkert teaches: wherein the control section controls the power section by setting the preset period of time to 1.25 msec (The delay threshold used in decision block 320 may be fixed, dependent on the QoS parameter, sensitive to packet

delay. E.g. if average packet delay is guaranteed in the milliseconds range then this will be the selected system delay threshold col 5 lines 29-40) (Chen: Col 12 lines 29-31 power transmission window of 1.25 milliseconds).

Regarding **Claim 44**. Denkert teaches: wherein the control section controls the power section to gradually increase the power transmitted to the mobile station (increasing power level in increments col 5 lines 26-27) making use of the packet data service by a preset power magnitude at each preset period of time.

Regarding **Claim 45**. Denkert teaches: wherein the control section controls the power section to gradually increase the power transmitted to the mobile station (power control algorithm is a function of a delay variable Col 5 lines 18-20 depending on priority level power is increased by increments col 5 lines 25-28 delay time in transmitting packets leads to increasing transmitted power col 5 lines 40-48) making use of the packet data service at each preset period of time in a way that an increasing width of each step is gradually decreased as the preset period of time proceeds.

Regarding **Claim 46**. Denkert teaches: wherein the control section controls the power section to cause the increasing width to be gradually decreased as the preset period of time proceeds so as for the power transmitted to the mobile station (power control algorithm is a function of a delay variable Col 5 lines 18-20 depending on priority level power is increased by increments col 5 lines 25-28 delay time in transmitting packets

leads to increasing transmitted power col 5 lines 40-48) making use of the packet data service to increase in exponential proportion.

Regarding **Claim 47**. Denkert teaches: wherein the control section controls the power section to cause the gradually increasing power to be increased up to a peak power (maximum transmit power available at the base station transceiver col 4 lines 61-62) which can be currently transmitted.

Regarding **Claim 48**. Denkert teaches: wherein the control section controls the power section using the preset predetermined time as a time which it takes a signal-to-interference ratio (carrier-to-interference ratio col 2 lines 38-39) of the mobile station to be restored to an original value (QoS level col 2 line 32) thereof when the power allocated to the mobile station making use of the line service is changed (power control used with C/I targets to ramp transmit power up or down for each link to control link quality col 2 lines 43-45).

6. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Denkert, in view of Chen and Richards (USP 7209724).

Regarding **Claim 32**. Denkert teaches:The power allocation method as claimed in claim 23, wherein the step (d) gradually decreases an increasing width at each preset period of time (power control algorithm is a function of a delay variable Col 5 lines 18-20

depending on priority level power is increased by increments col 5 lines 25-28 delay time in transmitting packets leads to increasing transmitted power col 5 lines 40-48) so as for the power transmitted to the mobile station making use of the packet data service to increase in exponential proportion (Richards: power control with exponential gain control col 33 lines 25-30) for the preset predetermined time (time slot in the downlink col 1 line 53).

Denkert does not teach increase in exponential proportion.

Richards teaches increase in exponential proportion (col 33 lines 25-30).

Richards teachings in power control with exponential gain can be combined with Denkert's teachings on power control to produce the applicant's invention of increasing power in exponential proportion.

Both Richards and Denkert are in the power control field for radio communications – their art is analogous.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Richards's teachings with Denkert's teachings to provide optimal power management in a radio communication system.

Response to Arguments

7. Applicant's arguments filed 01/30/2008 have been fully considered but they are not persuasive.

8. The main argument on pages 12-17 is that the references do not disclose the newly amended limitation: *the increased power is in a remaining power* (specification

definition p2 lines 5-9: power control for the line service and the packet data service, the total power which the base transceiver station is supplying is shared, the base transceiver station allocates all the remaining power other than the power needed to provide the line service to provide the packet data service) *other than the power allocated to the line service* (specification definition p1 lines 20-21: line service refers to a real-time service, such as a voice service, a video service). Examiner respectfully disagrees. The specification explains this limitation as: (p2 lines 5-9) the total power which the base transceiver station is supplying is shared between the line service and the packet data service, the base transceiver station allocates all the remaining power other than the power needed to provide the line service to provide the packet data service. The claim states that when the packet data service ends, the power used for that service is now used for the other service, namely the line service (see, e.g. the teachings of the reference Denkert: power control is used to adjust operations of the communication system col 2 lines 40-41, Transmit power is ramped up to control link quality col 2 lines 45). A person having ordinary skill in the art would recognize that utilizing the power that was used in a data service (which is no longer in operation) for an existing voice service may lead to improved link quality for the voice connection.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hooman Houshmand whose telephone number is (571)270-1817. The examiner can normally be reached on Monday - Friday 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hooman Houshmand
Patent Examiner
April 6, 2008

/Hassan Kizou/

Supervisory Patent Examiner, Art Unit 2619